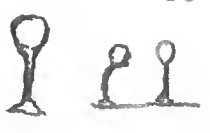


Notes on
Myxomycetes.

Arceuthobium June 22, 1884. Collected on a decayed log lying in water. The little *Arceuthobium* grow on the moist wood where not submerged. In two forms:

1. Soft or young?  of a bright saffron red color.

Head spherical or obovate merging into the striate stem which expands at the base. Surface of the stem transparent, nearly or quite colorless, axis only less red than the head. 2 to 2.25 mm long, head 0.75

2. Brown, generally smaller and more consistent. Head chocolate brown shining; stem brown with red, base expanded. Length 1.5 mm, head 0.75. When ripe the peridium bursts, and the cup-like remains below appear yellow and finely punctate. Capillitium forming a spherical ^{ochrace yellow} mass of abundant tortuous & continuous anastomosing threads, yellow, with double spiral line markings; the spirals prominent at the turns & apparently not enclosed in tubular membrane less than 0.006 no spines or tubercles but excepting the turns of the spiral everywhere smooth & with no free ends. Spores plain, spheroid, pale yellowish .0075 to .01.

In a knot running through a wood in Chester Co.

In the base of the expanded stem lobes of a deep burnt sienna color exhibiting a cellular constitution, thus:


The cells of variable size & considerably larger than the spores.





Lycogale epidendrum. June 1884. Observed in
Swanthum on damp decaying logs, isolated or in groups;
the peridia from size of pepper grain ordinarily to
size of marrow fat pea. At first pale reddish
color then becoming indigo red & then brown. Surface
finely warty. When broken in the young state exude a
bright pale vermilion pulp. When ripe the interior
pulverulent pale brownish. Spores pale translucent,
granular, nearly colorless, spherical .0075 diam.
Threads, scarcely the thickness of the spores, colorless,
moniliform, tubular, doubly contorted, entire an.




1884

Trichia pyriformis? Groups from the wood of a
decaying chestnut log; the peridium all burst and
covered with mass of ferocious wool. July 3d 1884
Peridium in crowded groups or fascicles, turkimate-pyriform
blackish red, open  transversely at the upper extremity.
Spores deep yellowish or yellowish brown, granular, with
a thick granular membrane, large usually
about .01; smaller ones .009 occasionally reaching .012.
Threads tortuous, anastomosing at long distances, darker
brown than the spores, doubly spiral, very spinulose
about .006 diam.

July 3, 10 a.m. Spores placed in clear water. With them
were many colorless spherical molecules 0.0015
exhibiting mol. movement, a few quiescent
bacilli-like bodies 0.003 long but showing only
mol. mov., and also smaller indeterminate granules.

July 5. 10 a.m. Spores unchanged. Numerous Bacteria present
in ones and twos  .003 long or pairs .0045 exhibiting only
molecular movement. A few vibrios  about .015 long,
slow moving. No monads present. Fresh water added.

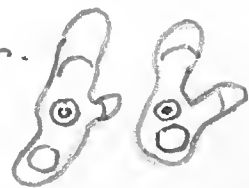
July 6 12. No change in spores . Bacteria. vibrate about
their own extent & slowly turn so as to present end towards the eye.

July 7 6 a.m. No change. Same condition as yesterday.

July 9. 10 a.m. A few minute & exceedingly delicate
Anucleas have made their appearance. 0.015 by 0.009
with distinct C.V. .0045 & rather indistinct nucleus .003 with
more distinct nucleolus; move with extreme slowness, muscles
changing from fast to scarcely moving from their position.



Often appeared to have Bacilli
adherent.



1884

Still fewer minute flagellate forms observed, indeed only two noticed 0.024 by 0.009 with anterior flagellum about as long or longer than body. Nucleus indistinct. Move slowly, not more rapid than the amoeboids, body changing in amoeboid manner but to less extent. Spores apparently unchanged.

July 10 + 11. Same condition. Many of the minute amoeboids visible as represented in the two figures of July 11. They remain nearly stationary in position & do not move to their own extent during a long period of observation. Often attached to a spore they remain in same position as long as held under examination. Life evident from the incessant change of shape & expansion & contraction of the contractile vacuole. Both species are also exceedingly slow. Nucleus generally hardly visible, rather less in size than the C.V. Fine granular contents among which appear to be Bacteria such as one seen in the medium crowd. The amoeboids the most delicate kind; the others even being nearly traceable without power. Flagellate forms none; only two noticed in the observations of 10th none seen on 11th.

July 13, 14. Many flagellate amoeboids, which slowly glided about changing position and form incessantly. Appear to have replaced the former amoeboids as ~~were~~ were detected. These amoeboids, more numerous than former usually measure from 0.018 to 0.024. When moving forward generally with a fusiform shape as in (5) commonly about 0.024 to 0.03 long. Function elongated so that tail-like extremity appeared almost as delicate as the flagellum.

1884

Body delicate faintly granular with few large molecules, contractile changeable in form, expansions, sometimes assuming more or less irregular forms, sometimes elongating to 0.045. Nucleus not detected. Could detect no appearance of contractile vesicle, whereas in the former stationary amoeboids, it was very conspicuous. Flagellum about as long or longer than the body.

No 2. Numerous very active, very minute, move rapidly & suddenly by jerks, resembling jumping of fleas. At times stationary when slightly change form and roll over. Oval, ovoid, with flagellum about as long as body. Mostly measure about 0.0045 - Many only 0.003 & few reach 0.006. A central globule either nucleus or contractile vesicle. See drawings of July 14th.

July 20th. Spores apparently unchanged. The jerking monads numerous and active, but the amoeboids have nearly disappeared only a few being seen. Bacteria numerous.

1885.

July 3, 1885 Wallingford. In an old field on a decaying stump observed five specimens *Fuligo septium*, of which two appeared to be in transition from the sulphur colored plasmodium elsewhere seen. These had scattered portions of the plasmodium while all other parts of the *Fuligo* were characteristic.

Observed *Fuligo* to emit an opiate odor.

1885

Fuligo? Sept. 9. Wallingford. Found under the bark of a decaying Ash log lying on the roadside, among the brownish layers of bark, a large blackish plasmodium, extended about 18 inches long by 3 inches broad, looking like flat ramified and anastomosing root plus, of soft consistence. From this spread a number of beautiful cream colored Exgonia-like expansions (Several specimens preserved in alcohol) These were about $\frac{1}{2}$ in to 1 inch broad. Bright yellow Exgonia-like plasmodia were also observed in same log. A dried strip of the bark preserved.

Fuligo? Oct. 25th Easton, Pa. In a walk in company with Dr. Porter, found on Chestnut Hill, at edge of a forest, on turning over a log, among dead leaves and other materials, a yellowish, wrinkled discoid body. It looked like the wrinkled moulting skin which one might remove from the surface of a part of plaster. It was continuous & shagreened not reticulate. Supposing it to be a Fuligo, shagreened with cold, about the size of a half dollar. I wrapped it in a couple of dried oak-leaves & a piece of newspaper and put it in my pocket. Then had been frost and the trees generally were leafless or the foliage dead. Oct. 27th. The specimen was dried & broken into several pieces. It was placed in

a tumbler, with some moistened pieces of decaying lent of a dirty brown color, and placed on my study table. About a week subsequently, the plasmodium was observed to be in active condition, of a bright lemon yellow, and crept about among the lent and on the sides of the tumbler in the usual reticular anastomosing manner. This was continued until Jan. 9th 1886, when the plasmodium entirely disappeared. It gradually decreased so that on Jan 6th there remained only a group of three little masses about size of mustard seed & then finally disappeared. In creeping about it everywhere left behind its brownish tracks.

1886

July 3. Observed five specimens of *Fuligo septica* on a stump. Of which two were in transition state from a yellow translucent plasmodium, resembling in appearance the sulphur yellow creeping plasmodium previously observed. Observed the *Fuligo* to emit a strong odor resembling Opium.

Aug. 4th Trip to Euston. Chestnut Hill remarkably extensive view from top. Granitic ridge. Aug 6th trip in company with Dr. Carter & Prof. Smith to Milford, N.J. and visit with Mr. Lane to Red Bank, N.J. in search of fossil foot tracks.

